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## (54) ANTENNA SYSTEM

## (57) Abstract:

PROBLEM TO BE SOLVED: To provide an antenna system that is resonated for a plurality of frequency bonds and used in common to a plurality of systems.

SOLUTION: The antenna system in resonance with a plurality of frequencies or provided with a linear feeding element 1 having length is  $L_1$  and a linear loop-back element 2 placed close to the feeding element 1 whose one end is short circuited to the feeding element 1 and whose length is  $L_2$ , the difference ( $L_1 - L_2$ ) of the length between the feeding element 1 and the loop-back element 2 is set to be in resonance with higher frequencies and the length  $L_1$  of the feeding element 1 is set, in resonance with lower frequencies in cooperation with the loop-back element 2. Multi-resonance at a plurality of frequencies is attained, and the antenna is used in common for radio equipments in a plurality of systems.

